



Safety Data Sheet

Section 1: Identification

Product Name: Isopropanol

Synonyms: Isopropyl Alcohol 2-Propanol 2-Propyl Alcohol n-Propan-2-ol
IPA Sec-Propanol Sec-Propyl Alcohol

CAS No.: 67-63-0

Chemical Formula: C₃H₈O

Company: AllChem Industries ICG, Inc. **Emergency Number:** CHEMTREC: 800-424-9300
6010 NW First Place
Gainesville, FL 32607
Tel: (352) 378-9696

Section 2: Hazard(s) Identification

Emergency Overview: Flammable liquid.
Hygroscopic. This substance has caused adverse reproductive and fetal effects in animals.
May form explosive peroxides.
May cause severe eye irritation and possible injury.
Causes digestive and respiratory tract irritation.
Causes mild skin irritation, possible sensitizer.
Target Organs: Kidneys, central nervous system, gastrointestinal system, cardiovascular system.

GHS Classification:	Category
Flammable liquids	2
Skin irritation	3
Eye irritation	2A
Specific target organ toxicity-single exposure	3

GHS Label elements:**Pictograms:****Signal Word:****Danger****Hazard Statements:****Code****Discription**

H225

Highly flammable liquid and vapour.

H316

Causes mild skin irritation.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

**Precautionary Statements:**

Code	Discription
P210	Keep away from heat/spark/open flames/ hot surfaces - No smoking
P261	Avoid breathing dust/fum/gas/mist/vapours/spray.
P305, P351, P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other classifications:**NFPA Rating:**

Health:	2
Fire:	3
Reactivity:	0

HMIS:

Health:	2
Flammability:	3
Physical:	0

Section 3: Composition, Information on Ingredients

Component	CAS No	Index No.	Concentration	EINECS No
2-Propanol	67-63-0	603-117-00-0	100%	200-661-7

Section 4: First-aid measures

Inhalation:	<p>Remove to fresh air.</p> <p>If not breathing, apply artificial respiration.</p> <p>If breathing is difficult, give oxygen provided a qualified individual is present.</p> <p>Get medical assistance.</p>
Ingestion:	<p>Do NOT induce vomiting.</p> <p>If victim is conscious and alert, give 2-4 cupfulls of milk or water.</p> <p>Never give anything by mouth to an unconscious person.</p> <p>Get medical aid.</p>
Skin Contact:	<p>Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.</p> <p>Wash clothing before reuse or discard if they cannot be thoroughly cleaned.</p> <p>Get medical aid.</p>
Eye Contact:	<p>Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.</p> <p>Get medical aid.</p>
NOTE TO PHYSICIAN:	<p>Treat symptomatically and supportively.</p> <p>Urine acetone test may be helpful in diagnosis.</p> <p>Hemodialysis should be considered in severe intoxication.</p> <p>Treat symptomatically and supportively.</p>



Section 5: Fire-fighting measures

Conditions of flammability:	Flammable Liquid.	Will burn if involved in a fire.
Extinguishing Media:	Water may be ineffective. Material is lighter than water and a fire may be spread by the use of water. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.	
Special protective equip.:	Wear a self-contained breathing apparatus MSHA/NIOSH (approved or equivalent), and full protective gear.	
Hazardous combustion products:		
Special Information:	Containers may explode in the heat of a fire. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Vapors can travel to a source of ignition and flash back. Vapors may form an explosive mixture with air.	

Section 6: Accidental release measures

Personal precautions:	Wear personal protection equipment.
Environmental precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Methods of containment/cleanup:	Clean up spills immediately. Absorb spill with inert material, then place into a chemical waste container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7: Handling and storage

Handling:	Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Loosen closure cautiously before opening. Contents may develop pressure upon prolonged storage. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not ingest or inhale. Do not breathe dust, vapor, mist, or gas. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
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Storage: Flammables-area.
 Keep away from sources of ignition, heat, sparks, and flame.
 Do not store in direct sunlight.
 Keep container tightly closed and store in a cool, dry, well-ventilated area.
 After opening, purge container with nitrogen before re-closing.
 Periodically test for peroxide formation on long-term storage.
 Addition of water or appropriate reducing materials will lessen peroxide formation.

Incompatibilities:	Acetaldehyde	Acid anhydrides	Acids
Aldehydes	Alkalies	Aluminum	Aluminum isopropoxide
Amines	Barium perchlorate	Carbonyl dichloride	Chlorine
Chromium trioxide	Crotonaldehyde	Ethylene oxide	Dioxygenyl tetrafluoroborate
Halogenated organics	Halogens	Hydrogen peroxides	Hexamethylene diisocyanate
Hypochlorous acid	Iron salts	Isocyanates	Ketones
Oleum	Oxidizing materials	Oxygen	Perchloric acid
Permanganates	Potassium-tert-butoxide	Sulfuric acid	Trinitromethane
Urea formaldehyde	Attacks some forms of plastics, rubbers, and coatings.		

Section 8: Exposure controls/ personal protection

Exposure Limits:	<u>Regulator:</u>	<u>Test:</u>	<u>Allowance:</u>
	ACGIH	TWA	400ppm 983 mg/m ³
	ACGIH	STEL	500ppm 1230 mg/m ³
	NIOSH	REL	400 ppm 980 mg/m ³ (10 hours)
	NIOSH	STEL	500ppm 1225 mg/m ³
	IDLH		12,000 ppm
	OSHA	PEL	400 ppm 980 mg/m ³

Engineering Controls: Use explosion-proof ventilation equipment.
 Use only under a chemical fume hood.
 An emergency eye wash must be readily accessible to the work area.
 An emergency shower must be readily accessible to the work area.

Personal Protective Equipment:

Personal Respirators: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Skin Protection: Wear appropriate protective gloves and clothing to prevent skin exposure.

Eye Protection: Wear appropriate protective eyeglasses or chemical safety goggles.



Section 9: Physical and chemical properties

Appearance

Physical State: Liquid
Color: Colorless

Odor: Solvent odor - alcohol-like
pH: No data available.

Specific Temperatures:

Freezing/Melting Point: -88°C -126.4°F
Boiling Point: 82°C 179.6°F
Decomposition temperature: No data available.

Flammability Characteristics:

Flash Point: 12°C 53.60°F
Auto-ignition Temperature: 459°C 858.20°F

Explosivity Characteristics:

Lower (LFL): 2.5% (V)
Upper (UFL): 12.1% (V)
Vapor Pressure: 33 mm Hg @ 20°C

Density:

Vapor Density (air=1): 2.1
Relative Density (water=1): 0.785

Solubility:

Miscible.

Complementary Data:

Molecular Weight: 60.0554 g/mol
Evaporization Rate: 2.3 (n-butyl acetate=1)

Optional Data:

Viscosity: 2.27 mPas @ 20°C

Section 10: Stability and reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.
Distillation may lead to the formation of peroxides.
This material may be sensitive to peroxide formation.

Conditions to Avoid: Light, ignition sources, acids, excess heat, exposure to moist air or water, oxidizers.



Incompatibilities:	Acetaldehyde	Acid anhydrides	Acids
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Chromium trioxide	Crotonaldehyde	Ethylene oxide	Dioxygenyl tetrafluoroborate
Halogenated organics	Halogens	Hydrogen peroxides	Hexamethylene diisocyanate
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Urea formaldehyde	Attacks some forms of plastics, rubbers, and coatings.		

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Section 11: Toxicological information

Potential health effects:

Inhalation:	Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation. Causes upper respiratory tract irritation.
Skin Contact:	May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be absorbed through the skin. May cause irritation with pain and stinging especially if the skin is abraded.
Eye Contact:	Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury.
Ingestion:	Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Chronic Effects:	Prolonged or repeated skin contact may cause defatting and dermatitis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. May cause allergic skin reaction in some individuals.
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Numerical measures of Toxicity -

Acute Toxicity:	Test	Subject	Lethal dose (50% of subjects)
Oral	LD 50	Mouse	3,600 mg/kg
Oral	LD 50	Rabbit	6,410 mg/kg
Oral	LD 50	Rat	5,045 mg/kg
Skin	LD 50	Rabbit	12,800 mg/kg



Carcinogenicity:	IARC: Group 3 carcinogen		
Additional Information:	RTECS#: NT8050000		
Epidemiology:	Experimental teratogenic and reproductive effects have been reported for isopropanol. Early epidemiological studies have suggested an association between the strong acid manufacture of isopropyl alcohol and paranasal sinus cancer in workers.		
Reproductive toxicity:	<u>Test</u>	<u>Subject</u>	<u>Lethal dose (50% of subjects)</u>
Oral	TD Lo	Rat	11,340 mg/kg (female 45 days pre-mating)
	Maternal Effects - menstrual cycle changes or disorders		
Oral	TD Lo	Rat	5,040 mg/kg (female 1-20 days after conception)
	Fertility - litter size (e.g. # fetuses per litter; measured before birth).		
Teratogenicity:			
Oral	TD Lo	Rat	8 gm/kg (female 6-15 days after conception)
	Effects on Embryo or Fetus - fetotoxicity.		
Oral	TD Lo	Rat	32,400 ug/kg (female 26 weeks pre-mating)
	Effects on Embryo or Fetus - fetal death		
Inhalation	TC Lo	Rat	7,000ppm (7hours) (female 1-19 days after conception)
	Specific Developmental Abnormalities - musculoskeletal system.		
Mutagenicity:			
Cytogenetic analysis: Inhalation	Rat	1030 ug/m3/16W (Intermittent)	

Section 12: Ecological information

Ecotoxicity:	<u>Test</u>	<u>Subject</u>	<u>Lethal dose (50% of subjects)</u>
	Modified ASTM D 1345 bioassay	Goldfish	> 5,000 mg/L (24 hours)
	Static bioassay	Fathead Minnow	11,830 mg/L (1 hours)
	LC50	Fathead Minnow	94,900-10,400 mg/L (96 hours)
	LC50	Fathead Minnow	61,200-65,500 mg/L (96 hours)
Persistence and degradability:	No data available.		
Bioaccumulative potential:	No data available.		
Mobility in soil:	No data available.		
Other adverse effects:	Dangerous to aquatic life in high concentrations.		

Section 13: Disposal considerations

Product:	Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.
Disposal:	Dispose of according to Federal, State, and Local Regulations



Section 14: Transport information

The information in this section is for reference only and should not take the place of a bill of lading specific to an order.

UN number: UN 1219
UN proper shipping name: Isopropanol
Transport hazard class: 3
Packing group number: II
Labels & Placards: Flammable
Marine Pollutant: No

Section 15: Regulatory information

US FEDERAL

TSCA: Isopropanol is listed on the TSCA inventory.
Health & Safety Reporting List Effective Date: 12/15/86; Sunset Date: 12/15/96
Chemical Test Rules: CAS# 67-63-0: 40 CFR 799.2325
Section 12b: None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ) None of the chemicals in this material have an RQ.
Section 302 (TPQ) None of the chemicals in this product have a TPQ.
SARA Codes Acute, chronic, flammable.
Section 313 This material subject to the reporting requirements of Section 313 of SARA.
Clean Air Act: This material does not contain any hazardous air pollutants.
 This material does not contain any Class 1 Ozone depleters.
 This material does not contain any Class 2 Ozone depleters.
Clean Water Act: None of the chemicals in this product are listed as Hazardous Substances under the CWA.
 None of the chemicals in this product are listed as Priority Pollutants under the CWA.
 None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA

STATE 2-Propanol can be found on the following state right to know lists: **California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.**

California No Significant Risk Level: None of the chemicals in this product are listed.



European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Xi F

Risk Phrases: R 11 Highly flammable.
R 36 Irritating to eyes.
R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases: S 7 Keep container tightly closed.
S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition - No smoking.
S 24/25 Avoid contact with skin and eyes.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 33 Take precautionary measures against static discharges.

WGK (Water Danger/Protection) 1

Canada CAS# 67-63-0 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of B2, D2A, D2B.
CAS# 67-63-0 is not listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: 2/27/2013

Revision date: 5/28/2013

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall AllChem be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if AllChem has been advised of the possibility of such damages.